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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/691,527

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Piero Perlo

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EXAMINER

NG, EUNICE

ART UNIT

PAPER NUMBER

2626

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/691,527		PERLO ET AL.	
	Examiner		Art Unit	
	Eunice Ng		2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 2 and 6 recite “operatively” and/or “operative for” which is intended use which itself has not been recited. The examiner has interpreted:

In claim 1, lines 7, 11, 17 and 38-39, “operatively associated to” to be --associated with--; “operatively connected to” to be --connected to--; “operative for sending to” to be --sends--; and “are operative for sending to” to be --sends--, respectively.

In claim 2, lines 1-2, “are operative for converting” to be --convert--

In claim 6, lines 1-2, “wherein it is operative for developing in the time” to be --developing in time--

Claim 7, lines 3-5, recite “the result of stimuli, feelings, events, actions, behaviors” which does not clearly indicate “and” or “or” combinations. The examiner has interpreted this to mean --the result of stimuli, feelings, events, actions, and/or behaviors--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 4, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVito (US Patent 6,254,536) in view of Moore (US Patent 5,749,324), Plotkin (US Patent 6,178,923) and Naritoku et al., hereinafter “Naritoku” (US Patent 6,556,868).

Regarding claim 1, DeVito teaches a voice connection system between humans and animals, in particular domestic animals, comprising: sensor means designed to be positioned on an animal, in particular on its head and/or neck, for converting pulses detected on the animal's body into electric signals indicating a status of said animal (col.1, ll. 27-30, teaches “electrical measurements of physiological parameters, such as brainwaves (EEG) from an animal”; col. 10, ll. 21-28, “table of baseline values for the control parameters...animal...interacting with the system...baseline values may then be used for comparison with each parameter set calculated from each epoch...results of this comparison allows particular states of mind, emotions, or other responses to be identified and converted to command code signals to control a given system”; col. 5, ll. 14-16, “Hook and loop fasteners allow the headband to be snugly fastened around the subject's head”).

DeVito does not explicitly teach sensor means designed to be positioned on the neck of the animal. However, this feature would have been obvious given the teaching elements of Moore which teaches, “stimulus-generating, device is housed in a collar placed around the body of an animal, preferably the neck” (col. 4, ll. 30-32). Since dogs are accustomed to and commonly wear

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collars, it would have been obvious given the teaching elements of Moore to position said sensor means on the collar. Moore also teaches, “modifying animal behavior by sound recognition or activation means coupled to meaningful responsive action” (col. 4, ll. 19-23) and “stimulus-generating means...may be aversive or non-aversive in nature...sound producing device...coupled to a recording, or voice stimulation chip, which recording or chip relays verbal commands to the animal” (col. 4, ll. 48-56).

DeVito and Moore do not, but Plotkin teaches processing means operatively associated to the sensor means, comprising memory means into which human voice messages corresponding to different statuses of the animal are recorded (col. 2, line 67 – col. 3, line 4, “control circuit and memory...for attachment to collar along with speaker”; col. 4, ll. 12-14, “messages stored in memory comprise of one or more spoken words and may be in any language, accent or voice type [human voice messages]”), loudspeaker means operatively connected to the processing means, the latter being designed to receive the electric signals coming from said sensor means and for activating said loudspeaker means in order to issue a voice message selected in said memory means, in function of the aforesaid electric signals received (Fig. 2, speaker 30 is positioned near the head of the dog, which would make the output appear to come from the animal), and voice recognition means operative for sending to the processing means signals representing the content of voice messages uttered by a human user (voice recognition would necessarily need to be performed in order to convert the voice messages into signals).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Plotkin with DeVito and Moore because making human words and phrases appear to come from the animal provides an amusing affect and further can be utilized for education purposes, as indicated by Plotkin (col. 4, ll. 35-52).

DeVito, Moore and Plotkin do not, but Naritoku suggests, pulse-generating means, which receive from said processing means said signals representing the content of the voice messages uttered by the human user, and which send to the animal's brain corresponding pulses (abstract, Naritoku teaches improving learning in animals by nerve stimulation by applying to the animal's nerve an electrical stimulation signal [pulses corresponding to voice messages] having parameter values effective in modulating the electrical activity of the nerve in a manner so as to modulate the activity of preselected portions of the brain), wherein said pulse-generating means are operative for sending radioelectric waves directly to the animal's brain (col. 9, ll. 62-64, "retention can be...enhanced by experimental treatments such as electrical brain stimulation").

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of DeVito, Moore and Plotkin with Naritoku because Naritoku teaches this method of electrical stimulation of the nerve provides improved memory or learning which can be observed soon after exposing the animal subject to the learning experience, as indicated by Naritoku (col. 18, ll. 37-53; abstract).

DeVito teaches wherein a neural network control system is implemented into said processing means, said sensor means comprises electroencephalographic type sensors, i.e. operating for detecting electric activity in the animal's brain, and electromyographic type sensors, i.e. operating for detecting electric activity in the animal's muscles and/or nerves (abstract, DeVito teaches "bioelectrical signals such as (EEG [electroencephalographic] and EMG [electromyographic]) for the control of systems"), at least first and second encephalographic type sensor means are placed close to a respective ear of the animal, or anyhow close to its occipital-temporal region (col. 5, ll. 14-16, "Hook and loop fasteners allow the headband to be snugly fastened around the subject's head"), and electromyographic type sensors means are placed on the

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animal's neck. DeVito does not explicitly teach sensor means designed to be positioned on the neck of the animal. However, this feature would have been obvious given the teaching elements of Moore as discussed above.

Regarding claim 3, Plotkin teaches storing a plurality of pre-recorded messages, “messages stored in memory comprise of one or more spoken words and may be in any language, accent or voice type [human voice messages]” (col. 4, ll. 12-14); Fig. 2, speaker 30 is positioned near the head of the dog, which would make the output appear to come from the animal. Plotkin nor DeVito, Moore, or Naritoku, explicitly teach wherein said neural network control system is programmed for enabling a human/animal interactive self-learning procedure, where in particular the human user can correct or acknowledge with his/her voice messages the correctness of the voice messages issued by said loudspeaker means. However, the Examiner takes Official Notice that it is old and well known in the art of speech recognition control systems to enable the user to correct or acknowledge the correctness of a speech recognition result. It would be obvious for one of ordinary skill in the art at the time the invention was made to enable such correction or acknowledgement of the user’s voice messages because speech recognition systems are not always accurate and do not always produce the desired/correct recognition result.

Naritoku suggests the animal can hear the human voice and the corresponding radioelectric waves simultaneously, thus associating the two stimuli (abstract, Naritoku teaches improving learning in animals by nerve stimulation by applying to the animal’s nerve an electrical stimulation signal [pulses corresponding to voice messages] having parameter values effective in modulating the electrical activity of the nerve in a manner so as to modulate the activity of preselected portions of the brain; col. 9, ll. 62-64, “retention can be...enhanced by experimental treatments such as

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electrical brain stimulation”; the animal would necessarily hear its own vocalizations with its own ears).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of DeVito, Moore, and Plotkin with Naritoku and because Naritoku teaches in addition to the animal hearing its own vocalizations with its own ears, this method of electrical stimulation of the nerve provides improved memory or learning which can be observed soon after exposing the animal subject to the learning experience, as indicated by Naritoku (col. 18, ll. 37-53; abstract).

Regarding claim 4, DeVito does not explicitly teach wherein said sensor means, said processing means, said loudspeaker means, said voice recognition means and said pulse-generating means are integrated into a collar. However, this feature would have been obvious given the teaching elements of Moore which teaches, “stimulus-generating, device is housed in a collar placed around the body of an animal, preferably the neck” (col. 4, ll. 30-32). Since dogs are accustomed to and commonly wear collars, it would have been obvious for one of ordinary skill in the art given the teaching elements of Moore to integrate said means into a collar, without the dog being irritated by unaccustomed attachments elsewhere.

Regarding claim 6, Naritoku in combination with Plotkin suggests wherein it is operative for developing in the time, through an evolutionary process, a language which is the animal's own language, thanks to the fact that the animal perceives--both with its own ears and through the stimuli produced by said pulse-generating means--its own vocalization and the voice output of said loudspeaker means (abstract, Naritoku teaches improving learning in animals by nerve stimulation

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by applying to the animal's nerve an electrical stimulation signal [pulses corresponding to voice messages] having parameter values effective in modulating the electrical activity of the nerve in a manner so as to modulate the activity of preselected portions of the brain; col. 9, ll. 62-64, "retention can be...enhanced by experimental treatments such as electrical brain stimulation"; the animal would necessarily hear its own vocalizations with its own ears).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of DeVito and Moore with Plotkin and Naritoku because Naritoku teaches in addition to the animal hearing its own vocalizations with its own ears, this method of electrical stimulation of the nerve provides improved memory or learning which can be observed soon after exposing the animal subject to the learning experience, as indicated by Naritoku (col. 18, ll. 37-53; abstract).

Regarding claim 7, DeVito teaches wherein said electric signals indicating a status of the animal are the result of stimuli, feelings, events, actions, behaviors, including those shown by the motion of the animal's muscles (abstract, DeVito teaches "bioelectrical signals such as (EEG [electroencephalographic] and EMG [electromyographic]) for the control of systems"; EEG and EMG are based upon real-time analysis of electrical measurements of physiological parameters [stimuli, feelings, events, actions, and/or behaviors, including those shown by the motion of the animal's muscles] (also called "bio-signals"), as indicated by DeVito in col. 1, ll. 27-46).

5. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVito in view of Moore, Plotkin, and Naritoku *et al.*, and further in view of Yamamoto (US Patent 5,790,033).

Regarding claims 2 and 5, Yamamoto teaches wherein said recognition means are operative for converting the animal's vocalizations into radioelectric waves, through said pulse-generating means; and suggests wherein said voice recognition means are used as means integrated and/or complementary to said sensor means, in order to improve the interpretation of the animal's status as detected through said sensor means (col. 2, ll. 29-36, "receives a sound uttered by a...dog, and changes it from a sound to a voice signal...sound receiving process uses a microphone for gathering sounds...receives the sound of the pet without surrounding noise, and outputs the voice signal").

It would have been obvious for one of ordinary skill in the art at the time the invention was made to include the teaching elements of Yamamoto with DeVito, Moore, Plotkin, and Naritoku because Yamamoto teaches this allows the animal's intention to be analyzed and translated, "permitting people to understand correctly behavior of a...domestic animal as well as trained professionals" (col. 1, ll. 4-7); thus, "people are able to effect accurate communication with animals...able to know correctly the expression of the animal...mistreatment of the animal and resulting neurosis can be prevented" (col. 4, ll. 21-24), as described by Yamamoto.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,496,115 (Arakawa), system and method for analyzing baby cries.

US 6,761,131 (Suzuki), apparatus for determining dog's emotions by vocal analysis of barking sounds and method for the same.

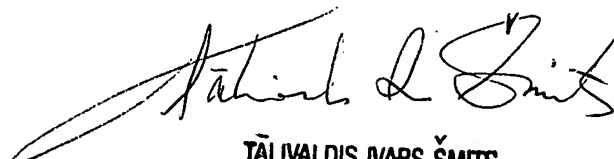
US 5,392,735 (Xitco, Jr. et al.), marine mammal communication device.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunice Ng whose telephone number is 571-272-2854. The examiner can normally be reached on Monday through Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EN
5/17/07



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PRIMARY EXAMINER